<u>What is claimed is:</u>

1. A plasma enahnced CVD apparatus, comprising:

a process chamber including an upper chamber with a dome shape, a lower chamber, and an insulator placed between the upper chamber and the lower chamber;

a gas distributing ring installed in the process chamber for ejecting a gas in an upward direction inside the process chamber;

a susceptor installed below the gas distributing ring for supporting a wafer thereon, and having a heater for controlling a temperature of the wafer and an internal temperature of the process chamber;

a plasma compensation ring installed at an upper part of sidewalls of the susceptor;

a vacuum pump connected to the process chamber; and

an electric power source connected to the upper chamber and the lower chamber.

2. The apparatus as claimed in claim 1, wherein the gas distributing ring has a plurality of nozzles at inner walls thereof, wherein each of the plurality of nozzles is upwardly sloped with an inclination of a predetermined degree.

3. The apparatus as claimed in claim 2, wherein the degree of inclination is in a range of from 30°C to 60°C.

4. The apparatus as claimed in claim 1, wherein the gas distributing ring is made of stainless steel.

5. The apparatus as claimed in claim 1, further comprising a loadlock chamber connected to the process chamber.

6. The apparatus as claimed in claim 1, wherein the susceptor is coated with Al_2O_3.

7. The apparatus as claimed in claim 1, wherein the plasma compensation ring is formed of stainless steel.

8. A method of forming a nitride layer using a plasma enhanced CVD comprising:

loading a wafer onto a susceptor;

supplying a first reactive gas containing nitrogen N_2 to a process chamber;

leaving the wafer intact for a first dalay time;

forming a basic layer on the wafer by converting the first reactive gas into plasma which is created by applying electric power to the process chamber;

leaving the wafer intact for a second delay time;

forming a nitride layer on the wafer having the basic layer thereon by supplying a second reactive gas to the process chamber and converting the second reactive gas into plasma;

leaving the wafer intact for a third delay time;

stopping the supply of the first and second reactive gases to the process chamber;

leaving the wafer intact for a fourth dealy time;

stopping applying the electric power; and

unloading the wafer from the susceptor.

9. The method as claimed in claim 8, wherein loading and unloading the wafer are performed through a loadlock chamber connected to the process chamber.

10. The method as claimed in claim 8, wherein ammonia is used as the first reactive gas and silane is used as the second reactive gas.

11. The method as claimed in claim 8, wherein forming the nitride layer is performed in the process chamber having an internal temperature of 580-670°C, an internal pressure of 0.5-0.7 mTorr and an electric power applied thereto of 100-700 W.

12. The method as claimed in claim 8, further comprising forming a protective film on inner walls of the process chamber before loading the

wafer, the protective film being formed of at least two layers each of which has a dielectric constant different from the others.

13. The method as claimed in claim 12, wherein forming the protective film includes forming an oxide layer on the inner walls of the process chamber and forming a nitride layer on the oxide layer.

14. The method as claimed in claim 13, wherein forming the oxide layer is performed by supplying nitrogen oxygen gas to the process chamber and converting the same in plasma.

15. The method as claimed in claim 13, wherein forming the nitride layer is performed by introducing ammonia gas and silane gas into the process chamber and converting the same gases into plasma.

16. The method as claimed in claim 8, further comprising vacuuming the process chamber to compulsorily exhaust a gas remaining in the process chamber and supplying a cleaning gas to the process chamber after unloading the wafer.

17. The method as claimed in claim 8, further comprising plasma etching cleaning to clean inner walls of the process chamber and components installed in the process chamber after unloading the wafer.

18. The method as claimed in claim 17, wherein the plasma etching cleaning is performed by supplying nitrogen trifluoride gas to the process chamber and converting the same gas into plasma.